

**CLAIMS:**

What is claimed is:

1. A method for reducing boundary effects for images with mixed screen patterns, comprising the steps of:  
    halftoning an image; and  
    adjusting boundary regions of said image to minimize brightness deviation of said halftone from an original contone.
2. The method according to Claim 1 for reducing boundary effects for images, wherein adjusting a boundary region further comprises the step of:  
    performing a low-pass filtering in halftones in said boundary regions, which have one or more than one pixels wide along a boundary.
3. The method according to Claim 2 for reducing boundary effects for images, wherein low-pass filtering further comprises the step of:  
    choosing a cutoff frequency for said low-pass filtering.
4. The method according to Claim 2 for reducing boundary effects for images, wherein low-pass filtering further comprises the step of:  
    choosing a cutoff frequency for said low-pass filtering to be around halftone frequency
5. The method according to Claim 2 for reducing boundary effects for images, wherein adjustment further comprises the step of:  
    comparing said filtering result to said original contone image and generating an error map.

**6.** The method according to Claim 2 for reducing boundary effects for images, wherein adjustment further comprises the step of:

comparing said filtering result to said original contone image and at pixel (m,n) generating an error map.

**7.** The method according to Claim 5 for reducing boundary effects for images, further comprising:

adjusting said pixels in said boundary regions to reduce magnitude of errors.

**8.** The method according to Claim 3 for reducing boundary effects for images, further comprising:

adjusting sequentially said pixels in said boundary regions to reduce magnitude of the errors.

**9.** The method according to Claim 3 for reducing boundary effects for images, further comprising:

adjusting said pixels by starting from pixels with larger errors to ones with smaller errors in said boundary regions to reduce magnitude of the errors.

**10.** A method for reducing boundary effects for images with mixed screen patterns, comprising the steps of:

halftoning an image;

adjusting a boundary region of said image to minimize brightness deviation of said halftone from an original contone; and

performing a low-pass filtering in halftones in boundary regions, which have one or more than one pixels wide along a boundary.

**11.** The method according to Claim 10 for reducing boundary effects for images, wherein low-pass filtering further comprises the step of:

choosing a cutoff frequency for said low-pass filtering.

**12.** The method according to Claim 11 for reducing boundary effects for images, wherein low-pass filtering further comprises the step of:

choosing a cutoff frequency for said low-pass filtering to be around halftone frequency

**13.** The method according to Claim 10 for reducing boundary effects for images, wherein adjustment further comprises the step of:

comparing said filtering result to said original contone image and generating an error map.

**14.** The method according to Claim 10 for reducing boundary effects for images, wherein adjustment further comprises the step of:

comparing said filtering result to said original contone image and at pixel (m,n) generating an error map.

**15.** The method according to Claim 12 for reducing boundary effects for images, further comprising:

adjusting said pixels in said boundary regions to reduce magnitude of errors.

**16.** A method for reducing boundary effects for images with mixed screen patterns, comprising the steps of:

means for halftoning an image;

means for adjusting a boundary region of said image to minimize brightness deviation of said halftone from an original contone;

means for performing a low-pass filtering in halftones in said boundary regions, which have one or more than one pixels wide along a boundary;

means for choosing a cutoff frequency for the low-pass filtering.

**17.** The method according to Claim 16 for reducing boundary effects for images, wherein low-pass filtering further comprises the step of:

means for choosing a cutoff frequency for said low-pass filtering to be around halftone frequency

**18.** The method according to Claim 16 for reducing boundary effects for images, wherein adjustment further comprises the step of:

means for comparing said filtering result to said original contone image and generating an error map.

**19.** The method according to Claim 16 for reducing boundary effects for images, wherein adjustment further comprises the step of:

means for comparing said filtering result to said original contone image and at pixel (m,n) generating an error map.

**20.** The method according to Claim 16 for reducing boundary effects for images, further comprising:

means for adjusting said pixels in said boundary regions to reduce magnitude of errors.